



## PATENT ABSTRACTS OF JAPAN

(11) Publication number: **2000179310 A**(43) Date of publication of application: **27.06.00**(51) Int. Cl. **F01L 1/34**(21) Application number: **10352788**(71) Applicant: **TOYOTA MOTOR CORP**(22) Date of filing: **11.12.98**(72) Inventor: **ISHII YOSHIKAZU**(54) **VALVE TIMING CONTROL DEVICE FOR  
INTERNAL COMBUSTION ENGINE**

COPYRIGHT: (C)2000,JPO

## (57) Abstract:

**PROBLEM TO BE SOLVED:** To provide a valve timing control device for an internal combustion engine which has a structure to improve performance of draining foreign matters such as sludge which accumulates in a lock hole of a locking mechanism.

**SOLUTION:** A lock pin 24 is arranged slidably in a passing hole 23 which is formed on a vane 13 of an inner rotor. The lock pin 24 regulates relative rotation of the inner rotor by being inserted into a lock hole 28 formed on a bush 27 which is installed in a bush hole 26 provided on a sprocket 15. A clearance 29 and a notch 30 formed on the mounting face of the bush hole 26 and the bush 27 provide a passage which enables hydraulic pressure to be supplied to the bottom portion of the lock hole 28, even with the lock pin 24 inserted therein.

